

WHEREFORE, WE CLAIM

1 1. A wireless unlicensed band radio system for use in maritime applications, said system
2 comprising at least three sector antennas configured so as to provide continuous coverage in 360
3 degrees of rotation, said antennas each being connected to a wireless fidelity radio and serving to
4 transmit and receive information from and to said radio.

1 2. The wireless radio architecture of claim 1, wherein each of said sector antennas
2 provides a minimum of 120 degrees of coverage.

1 3. The wireless radio architecture of claim 2, wherein each of said antennas are
2 configured at a 120 degree angular separation from the other two antennas.

1 4. The wireless radio architecture of claim 2, wherein said wireless unlicensed band radio
2 includes a primary RF port and a secondary RF port, and further including a passive two-way
3 power divider incorporated in said primary RF port.

1 5. The wireless radio architecture of claim 4, wherein two of said antennas are connected
2 to said power divider and the third of said antennas is connected to said secondary RF port,
3 wherein said power divider and said secondary RF port each provide driving signals to said
4 antennas.

1 6. The wireless radio architecture of claim 2, wherein each of said antennas is connected
2 to said wireless unlicensed band radio by a separate amplification path.

1 7. The wireless radio architecture of claim 6, further including a solid state transmit and
2 receive amplification unit incorporated in each of said amplification paths.

1 8. The wireless radio architecture of claim 7, wherein said transmit and receive
2 amplification units comprise a transmitter, a receiver and a solid state switch for selecting the
3 operation of said transmitter and said receiver.

1 9. The wireless radio architecture of claim 8, further including a voltage converter to
2 supply the proper bias condition for said wireless unlicensed band radio.

1 10. The wireless radio architecture of claim 9, further including power distribution
2 circuitry, said circuitry directing DC power to said amplification units and said voltage converter.

1 11. The wireless radio architecture of claim 10, wherein said sector antennas, said
2 amplification units, said wireless fidelity radio, and said power distribution circuitry are all
3 enclosed within an environmentally sealed radome.

1 12. The wireless radio architecture of claim 11, wherein said wireless unlicensed band
2 radio is connected to a network interface by means of two sets of CAT-5 cable.

1 13. The wireless radio architecture of claim 11, wherein said DC power is distributed to
2 said amplification units and said voltage converter by a single pair of shielded 12 gauge wire.

1 14. A wireless radio architecture for use in maritime applications, said system
2 comprising:

3 a wireless unlicensed band radio, wherein said wireless unlicensed band radio includes a
4 primary RF port and a secondary RF port, and further including a passive two-way power divider
5 incorporated in said primary RF port;

6 at least three sector antennas configured so as to provide continuous coverage in 360
7 degrees of rotation, wherein each of said sector antennas provides a minimum of 120 degrees of
8 coverage, configured at a 120 degree angular separation from the other two antennas, said
9 antennas each being connected to said wireless unlicensed band radio by a separate amplification
10 path, wherein two of said antennas are connected to said power divider and the third of said
11 antennas is connected to said secondary RF port, wherein a solid state transmit and receive
12 amplification unit is incorporated in each of said amplification paths, said unit comprising a
13 transmitter, a receiver and a solid state switch for selecting the operation of said transmitter and
14 said receiver; and

15 an environmentally sealed radome within which said sector antennas, said amplification
16 units and said wireless unlicensed band radio are enclosed and protected.